FIG. 1a

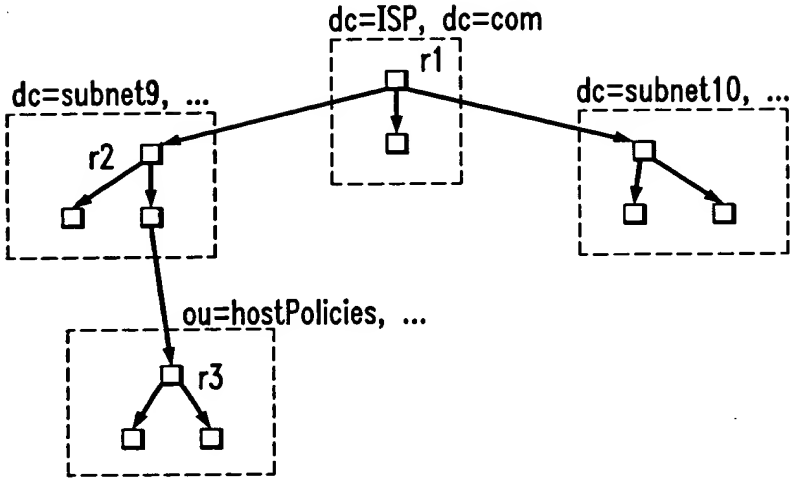


FIG. 1b

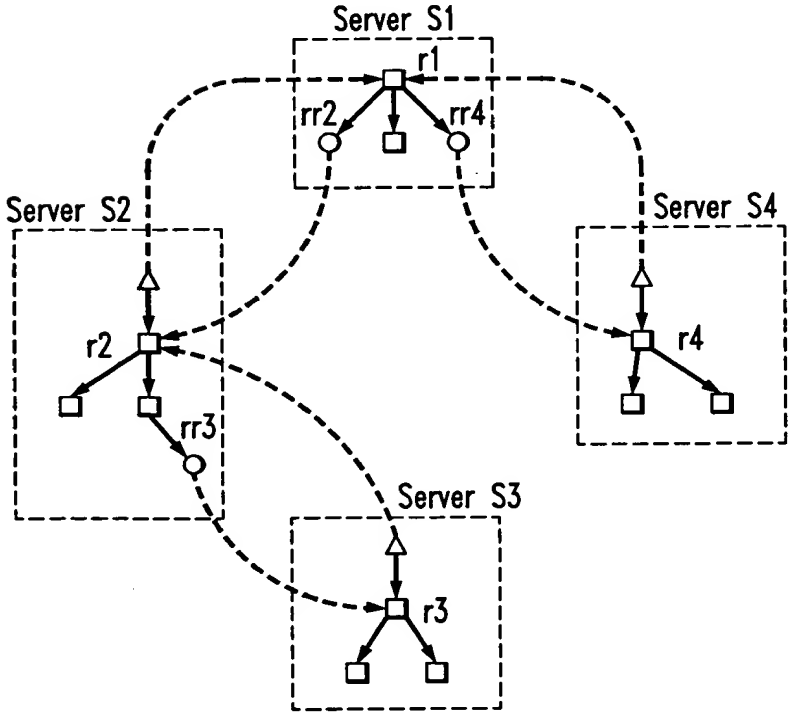


FIG. 2a

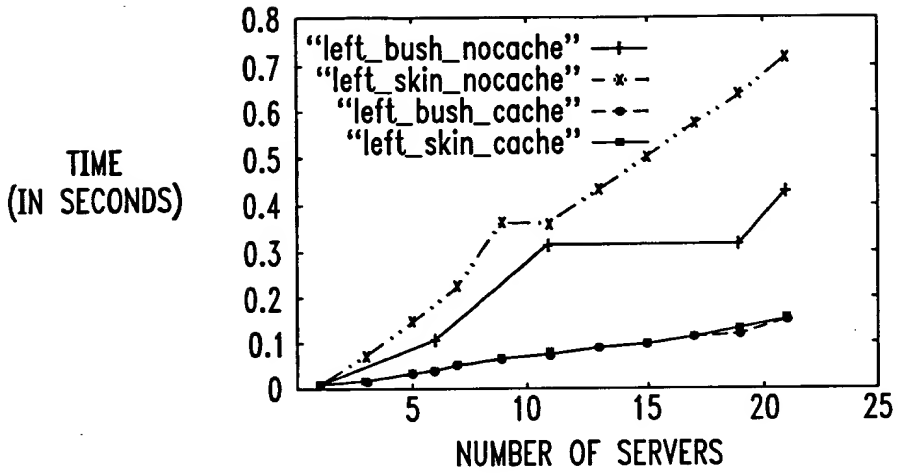


FIG. 2b

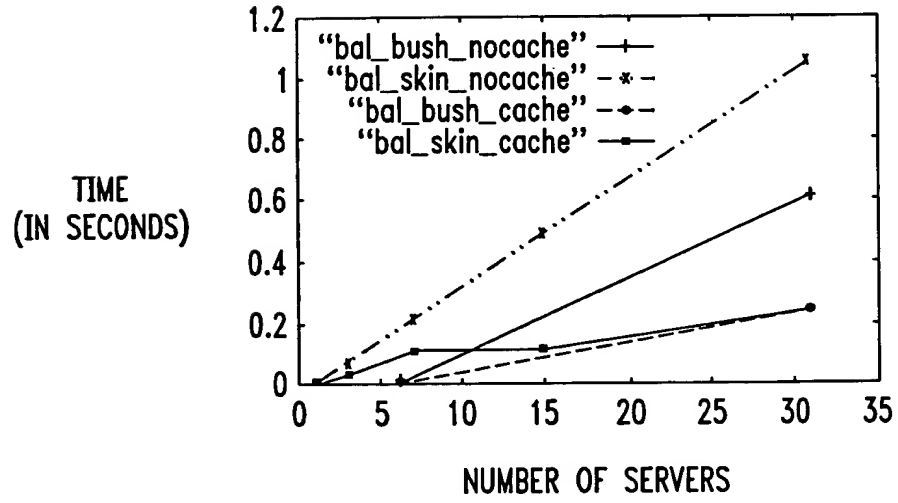
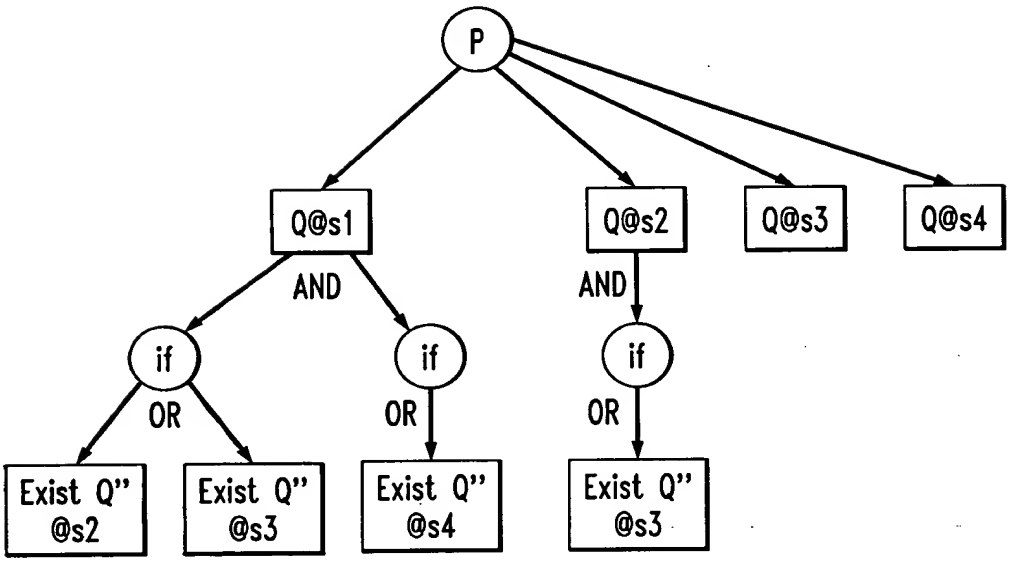


FIG. 3



Q = (d Q' Q'')

FIG. 4

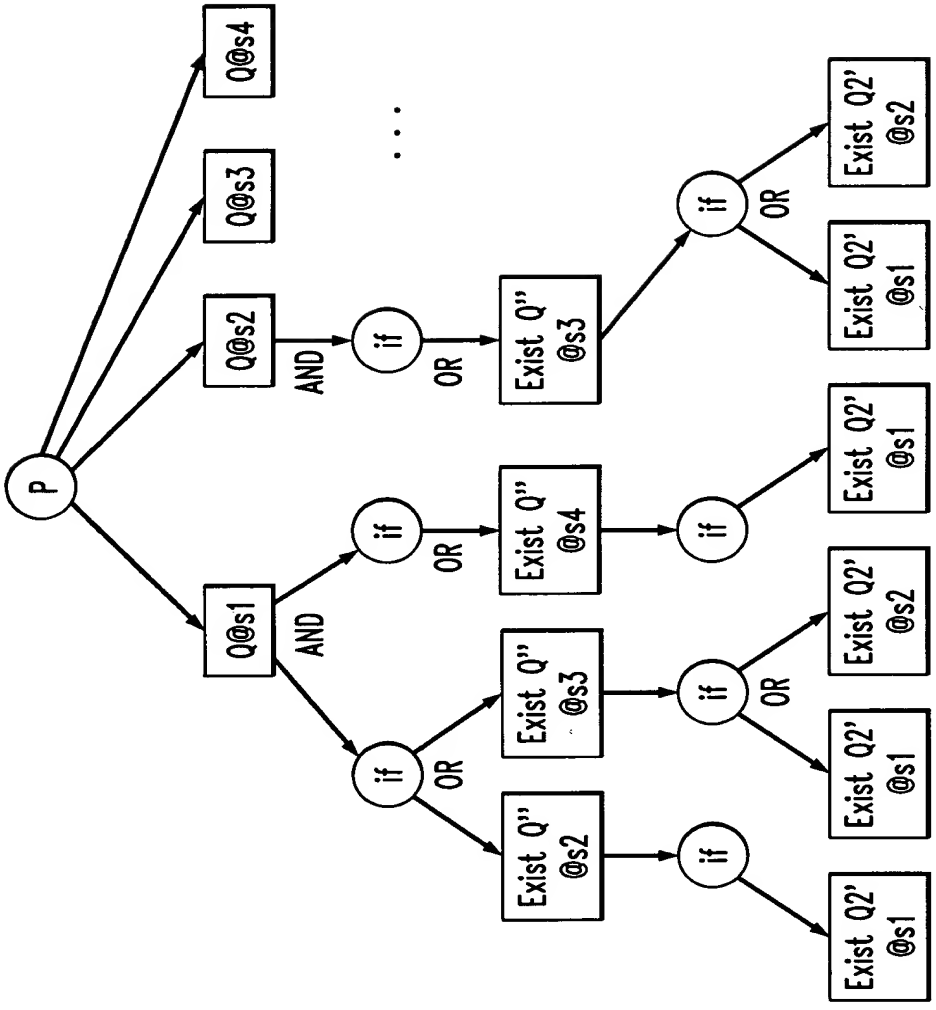


FIG. 5

```
Alogorithm Schedule(PT) {
    Answer:= { }; Pending := { }; Enabled := { };
    for each n in leaves(PT) do computeQueryNode(n);
    while (Enabled ≠ { } OR Pending ≠ { })
        L := chooseForSchedule(Enabled); /* implements a particular scheduling policy */
        for each (Q,S) in L do
            Pending := Pending ∪{(Q,S)}; LDAP_issueQuery(Q,S);
        LDAP_waitForEvent(e);
        case e.type of
          boolean answer for Q@S: Pending := Pending -{(Q,S)}
                                  storeCache(Q,S,e.value);
                                  for n in getCacheWaitinglist(Q,S) do {
                                      n.value := e.value;
                                      computeConditionalNode(n.parent); }
          directory entry for Q@S: Answer := Answer ∪{e.value}
          End-of-Entries for Q@S: Pending := Pending -{(Q,S)}
    return Answer;
}
function computeQueryNode(n) {
    if all n's children are computed then
        Q := generateQueryExpression(n.Query); /* expands all if-macros*/
        S := n.Server; v := getCache(Q,S);
        case v of
            INEXISTENT:     insertCache(Q,S, Pending);
                            Enabled := Enabled ∪{(Q,S)};
                            addCacheWaitingList(Q,S,n);
            Pending         addCacheWaitingList(Q,S,n);
            TRUE, FALSE:    n.value := v;
                            computeConditionalNode(n.parent)
}
function computeConditionalNode(n) {
    if (exist p in n.children such that p.value = TRUE) then
        n.value := TRUE; computeQueryNode( .      );
    else if (all n's children are computed) then
        n.value := FALSE; computeQueryNode(n.parent);
}
```

FIG. 6

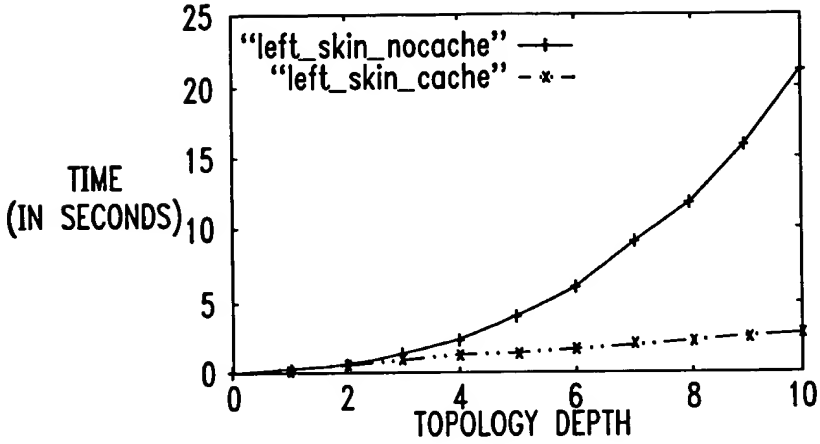


FIG. 7a

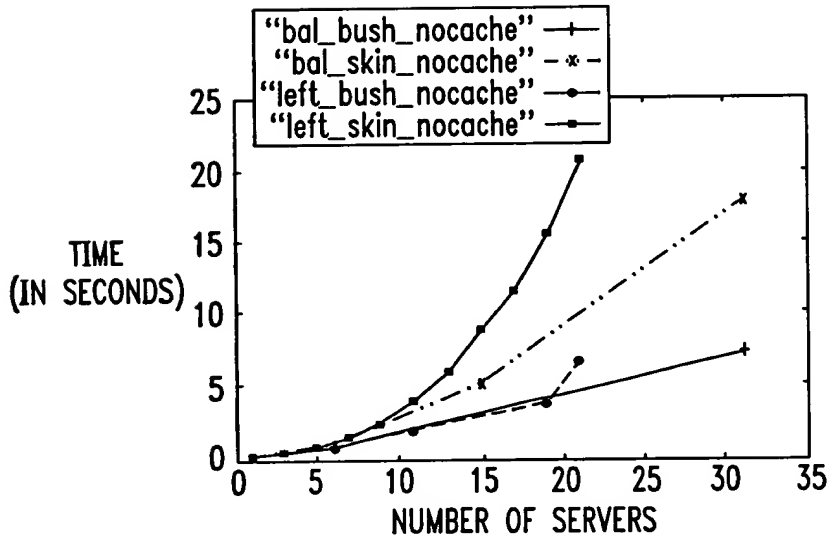


FIG. 7b